applying one or more electrodes to a subject's heart;

conveying an excitatory electrical pulse to at least one of the one or more electrodes to pace the heart; and

conveying non-excitatory stimulation pulse of a magnitude and at a timing at which it is unable to generate a propagating action potential to at least one of the one or more electrodes to modify the cardiac contraction.

REMARKS

The Examiner has rejected Claims 1 to 26 under 35 U.S.C. § 101, as directed to non-statutory subject matter. The Examiner further suggested how these claims may be amended to overcome the rejection. Applicants have amended Claim 1 above to conform to the Examiner's suggestions. Moreover, because Claims 2-26 depend upon Claim 1, those claims should now be clear of the § 101 rejection as well. It is therefore respectfully submitted that the outstanding rejection of Claims 1 to 26 under 35 U.S.C. § 101 has been overcome.

The Examiner has also rejected Claims 1-11, 17, 23-29, 32, 35, 36, 44, 49, and 51-53 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,083,564 (Scherlag), and Claims 1-5, 7, 9, 10, 17, 18, 23, 24, 26-30, 32, 34, 38, 44, 49-51, and 53 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,871,506 (Mower).

Applicants respectfully traverse the above rejections.

Scherlag discloses a method for alleviating and diagnosing syndromes of heart block wherein a stimulus is continuously or intermittently delivered via a single electrode catheter at a site in a heart in close proximity to the A-V junction in the heart. At Column 4, lines 16-21, Scherlag teaches the following:

> "As mentioned before, the stimulus in one embodiment is a DC current signal and, in one other embodiment, the stimulus is a train of current pulses. When delivering a train of pulses, each pulse in the

train of pulses must be delivered to the heart at a time immediately following the atrial activation (P wave)."

The inventive device is an apparatus for heart pacing with cardiac output modification, including one or more electrodes which apply electrical signals to muscle. The present application describes and claims signal generation circuitry, which applies an excitatory electrical pulse to at least one or more electrodes to pace the heart and a non-excitatory stimulation pulse. The stimulation pulse claimed in amended Claims 1 and 27 is **of a magnitude and at a timing at which it is unable to generate a propagating action potential** to at least one of the one or more electrodes to modify the cardiac output. Because in Scherlag the stimulus is delivered immediately after the P wave, that patent does not teach or describe, and in fact teaches away from, the stimulation pulse **of a magnitude and at a timing at which it is unable to generate a propagating action potential** to at least one of the one or more electrodes to modify the cardiac output claimed in the independent amended Claims 1 and 27 of the invention.

Furthermore, Scherlag does not teach or describe a device that generates an excitatory electrical pulse to at least one of the one or more electrodes to pace the heart and a non-excitatory stimulation pulse at the same time as is described and claimed in the independent Claims 1 and 27 of the invention. Thus, there is no teaching in Scherlag to put these two, very different functions together, and Scherlag goes not suggest or teach Applicants' invention. The rejection under § 102(b) should be withdrawn.

With reference to Claims 23 and 44, the Examiner has stated that telemetery and parameter changing are inherent to implantable cardiac devices. It should be noted that the use of telemetery to change parameters in the inventive device is novel. The Examiner is in error in looking at telemetry and parameter changing separately, where the combination was not was previously contemplated or achieved, as claimed here.

Mower describes **augmentation** of electrical conduction and contractility by biphasic cardiac pacing In view on the discussion above and the fact that similar to Scherlag

discussed above, Mower does not teach or describe a device that generates an excitatory electrical pulse to at least one of the one or more electrodes to pace the heart and a non-excitatory stimulation pulse. Mower does not teach or suggest any aspect of the invention now claimed.

In view of the arguments above establishing the distinctions between Scherlag and the present invention, Applicants believe that the rejection under 35 U.S.C. § 102(b) should be withdrawn and Claims 1-11, 17, 23-29, 32, 35, 36, 44, 49, and 51-53 should be allowed. Similarly, because Mower does not describe the functionality claimed in the present invention, the rejection under 35 U.S.C. § 102(e) should be withdrawn and Claims 1-5, 7, 9, 10, 17, 18, 23, 24, 26-30, 32, 34, 38, 44, 49-51, and 53 should be allowed.

The Examiner indicated that Claims 31, 33, 37, 39-43, and 45-48 as well as Claims 12-16 and 19-22 will be allowed if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The indication of allowable subject matter is appreciated.

Reconsideration and allowance of the claims herein are respectfully requested.

Respectfully submitted,

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